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This publication contains titles and abstracts of Japanese periodicals. Each periodical is abstracted as a whole and its issues summarized with a listing of volume and issue or report numbers and the dates of publication. Each periodical and each title and abstract has also been assigned an Index Number at the right in accordance with the Basic Intelligence Directive. Due to limitations of personnel and volume of material, it has been found necessary to require local agencies interested in any item covered by these abstracts to first send a representative to Sixth Floor, 1340 L Street, N. W., in order to preview the article prior to formal request for further translation. Formal requests should be made through the Office of Collection and Dissemination, CIG, 2430 E Street, N. W., Washington, D. C.

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PERIODICAL ABSTRACTS

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NIPPON SUGAKU BUTSURI GAKKAISHI 5505.0100
"Organ of the Physico-Mathematical Society of 5706.
Japan" 7500.
7501.

Published monthly by the Physico-Mathematical Society of Japan. Articles on pure and applied mathematics and on theoretical and practical physics and occasionally astronomy and geophysics, written by prominent Japanese scientists who are Society members.

The following are abstracts of articles from the Japanese-language issues of Jul 1941, Apr to Dec 1942 and Jan to Dec 1943.

Jul 1941 - Vol XV, No 1

"Fourier Series, Part 4" by KAWADA Tatsuo 8430.
A discussion of the convergence factor of Fourier series. 11 pp.

"Ferromagnetism and Magnetostriction" by TAKAKI Hideo 8430.
Magnetic phenomena accompanying physical deformation, Weiss domain, Joule's effect in simple iron crystals, Joule's effect at high temperatures, and the influence of tension on Joule's effect. 19 pp.

"Various Ergodic Theorems" by YOSHIDA Kosaku 8430.
Development from Banach's space, the mean ergodic theorem, the uniform ergodic theorem, and Markoff's chain possessing invariant measure. 34 pp.

"Physico-acoustical Studies on Japanese Phonetics" by OBATA Juichi, MURAI Ken and OUCHI Akira 8430.
Oscillographic studies of the sounds H, R, G and nasal G and of the nature of vowels between surds. 11 pp.

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Apr 1942 - Vol XVI, No 1

- "Thermoelectricity and Clausius' Inequality" by SUGIDA Motoyoshi 8430.
The thermodynamics of irreversible changes, reduced heat and Kelvin's relations. 4 pp.
- "Several Problems of Physical Volcanology" by MIZUKAMI Takeshi 6201.01
Volcanic explosions, distribution of rocks showered, pumice and volcanic ash, volcanic activity and changes in ground slope, earthquakes and tremors caused by volcanoes, changes in terrestrial magnetism varying with volcanic zones and during volcanic activity, gravity and gravitational declination near volcanoes and terrestrial movements during volcanic activity. 25 pp.
- "Modular Representation of Finite Groups" by OSHIMA Katsu 8430.
Regular representation analysis, indicial relations, Block's theory, proof of basic theorems, and special cases and examples. 20 pp.
- "The Existence of Average and Stable Planetary Motion" by HAGIHARA Yusuke 8430.
Proofs by the theory of integral numbers and by asymptotic series; almost-periodic motion, the stable equilibrium theory, and the null value of almost-periodic functions. 9 pp.
- "Several Problems of the Geiger-Muller Tube" by AOKI Hiroo 8600.0430
8370.0250
Types: growth and disappearance of the electric discharge in the tube; Montgomery's explanation and Ramsey's experiments concerning voltage changes in the needle; minimum times between two electric discharges; self-excitation; characteristic curves of the tube; series resistance and characteristic curve; time curve for the electric discharge; the time relation between radioactive rays and electric discharge; and the causes of self-excitation. 11 pp.
- "Viscosity and Dielectric Adsorption of Organic Resinous Substances" by KAWAI Hirejiro 8520.0108
The influence of atomic and molecular constitution on physical properties, as in Debye's theory. 1 p.
- "Counter Tube Possessing a Grid" by AOKI Hiroo, ARAKAWA Taiji and MORIYA Tadao 8370.0250
8600.0430
A graph showing several characteristic curves for different voltages. 1 p.
- "Determination of the Maximum Force of Neutrons Released in the Reaction Cu plus D" by SAGANE Ryokichi, HORIE Hiroshi and TOHIDA Giichi 8600.0811
Three graphs of the results of experiments. 1 p.

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"Determination of the Maximum Force of Neutrons Released 8600.0811
in the Reaction Al plus D" by SAGANE Ryokichi and UKAI
Shigeshi

Three graphs showing the results of experiments.
1 p.

"Variation of the Barometric Effect on Cosmic Rays With 8430.
Latitude" by SEKIDO Yataro

A graph showing the results of tests with a Neher-
type counter carried aboard a ship traveling from
Australia to Seattle. 1 p.

"Cosmic Rays and Aerology of the Tropics" by SEKIDO 8380.0209
Yataro

Practical application of the inverse relation between
changes in atmospheric pressures and temperatures in
the stratosphere over the lower latitudes. 1 p.

"Cosmic Rays and Seasonal Rainfall" by SEKIDO Yataro . 8430.

Graph showing correlation between precipitation and
the air pressure effect coefficient. 1 p.

"The Stoppage of Protons" by ARAKI Gentaro 8600.0811

General discussion of Schlein's and Oppenheimer's
work, especially the cross-sectional area through
the proton of static forces and the emission of
mesons. 1 p.

"Interaction of Mesons and Nuclear Particles" by ASANAGA 8600.0811
Shinichiro

General discussion of the discrepancies between theo-
retical and experimental results and the difficulties
of relative quantum mechanics. 2 pp.

May 1942 - Vol XVI, No 2

"Corona Lines" by HAGIHARA Yusuke 8430.

The coronal spectrum of the sun and certain forbidden
lines difficult to explain; Maxwell's distribution
formula applied to the electron velocities in the so-
lar corona. 5 pp.

"The Elasticity of Steel" by MURAKA A Kiyoshi 8430.

The elasticity of ferromagnetic bodies; experimental
methods and graphs of the results; cohesive and mag-
netic stretch; initial reversible stretch; and re-
peating a load. 5 pp.

"Acoustical Studies of Japanese Fire Bells" by KOBASHI 8430.
Yutaka

Peculiar vibrational modes and patterns. 10 pp.

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- "The Phenomenon of Adsorption in Electrolytes Possess- 8430.
ing Surface Tension" by MUTO Yoshio
Corrections made in Cassie's and Palmer's formulas
by consideration of image force repulsions in in-
organic salts. 4 pp.
- "Recent Researches into the Mechanical Characteristics 8430.
of Amorphous Substances" by OKA Shoten and OGAWA Noriya
Correlations between molecular structure and physi-
cal properties of viscosity and plasticity. A gen-
eral discussion. 14 pp.
- "Progress in Cosmic Ray Research" by ASANO Yoshihiro 8430.
General view, direction and method of research; the
origin of cosmic rays; their nature; their hard
and soft components; showers and explosions; the heavy
particles among cosmic rays; variations in the inten-
sity of cosmic rays; and the influence of cosmic rays
on life. 15 pp.
- Jun 1942 - Vol XVI, No 3
- "Regular Functions of Complex Variables and Necessary 8430.
Conditions" by SHE IZU Shinjiro
General discussion of the analytic functions . 2 pp.
- "Corrections Made by Quantum Mechanics in the Potential 8430.
Between Atoms in Gases" by KIHARA Taro
Atomic potential as calculated from the equations of
state in thermodynamics; the calculation of the virial
constant or coefficient in the gas law for atoms of
the classical model; quantum mechanics correction;
atomic potential determined by the coefficient of
viscosity; the viscosity of gas according to the
kinetic theory; quantum mechanics effect in heat
diffusion between isotopes. 6 pp.
- "Solving the Problem of Thermal Conduction when Given 8430.
Terminal Conditions" by OSHIDA Isao
The temperature distribution in a body that existed
prior to a known distribution. 2 pp.
- "Neutron Scattering in Iron-Nickel Alloys" by HONDA 4205.1000
Yoshihiro 8430.
Practical application of the discovery by Nix, Dun-
ning and others that the transmission coefficient of
thermal neutrons varies with annealing, quenching and
cold working. A study of atomic order and super-
lattices. 4 pp.
- "The Hygroscopic Coefficient of Paper" by SHIMA Shiro 8430.
The hygroscopic tendencies of paper and their vitia-
tion of its insulating properties for electrical
work. 1 p.

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"Banach Space Possessing Semi-Order" by KAWADA Keigi 8430.
A general discussion of the vector lattice theory as recently developed. 15 pp.

"Pseudo-Scalar Mesons" by ARAKI Gentaro 8600.0811
General discussion of the short-range force and interaction of the various particles. 4 pp.

"Recent Researches into the Physical Characteristics of Amorphous Substances; Part 2" by OKA Shoten and OKAWA Noriya 8430.
The Bannowitz-Rotger theory; the influence of temperature and vibration on great elastic changes; characteristics in the solid-liquid phase; elastic bodies showing temporal effects; and Volterra's theory. 19 pp.

Jul 1942 - Vol XVI, No 4

"The Structure of a Riemannian Space Whose Holonomic Groups Fix a Direction or Point" by SASAKI Shigeo 8430.
A general discussion of Cartan's theory. 8 pp.

"The Life Period of Vector Neutral Mesons" by NAKAMURA Seitaro 8430.
General discussion; quantization; calculations of perturbations; approximations. 8 pp.

"The Meson Theory of the Nucleus" by OZAKI Seiji 8600.0811
A general view; the interaction of nucleus and meson; nuclear forces; and the dispersion of mesons by the nucleus. 2 pp.

"Spectroscopic Studies on Mercury Hg₂" by HAYASHI Shoichi 8430.
Outline of researches; the experiments; and the spectrographs. The potential curves. 10 pp.

"The Amount of Water Absorbed by and the Thermal Conductivity of Regenerated Cellulose Membranes" by MATANO Chujiro 8430.
Experimental methods and test materials; and experimental results. Four graphs and a table. 2 pp.

"The Interaction of Thermal Neutrons and Solid Bodies" by KIMURA Kazuharu 8600.0811
The general characteristics possessed by thermal neutrons; the problem of refraction in crystals; scattering by alloys; the interaction depending on the magnetic moment of the neutrons; problems of today and tomorrow. Charts and tables. 8 pp.

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"The Relation Between Mesons and YUKAWA's Particles" by 8600.0811
SAKADA Shoichi and INOUE Ken

The present-day difficulties of the meson theories
cleared away by new studies in the fundamental nature
of simple particles. 3 pp.

"The Interaction of Nuclear Particles" by ARAKI Gentaro 8600.0811

The solution of the problem of nuclear forces by
assuming the inverse cube law. 1 p.

"Direct Interaction" by MIYASHIMA Tatsuoki 8600.0811

The approximate value of the coefficients of inter-
action in the perturbational Hamilton function; gen-
eral discussion of nuclear forces. 1 p.

"Nuclear Forces" by MIYASHIMA Tatsuoki 8600.0811

Separation of the problems of scattering and of nuclear
forces and magnetic moment. 1 p.

"Natural Ionization Intensities at Various Places" by 8430.

ASANO Yoshihiro

A table showing cosmic ray intensities at various
places in Japan, by the Nehdr-type counter. 1 p.

"Aerial Radiation During Rain, Report No 1" by SEKIDO 8430.

Yataro, IIO Tsutsumu and IKEDA Teruyoshi

Two graphs showing the variation of ionization with
precipitation and an explanation. 1 p.

"Aerial Radiation During Rain, Report No 2" by SEKIDO 8430.

Yataro, ISHII Chihiro and TSUTANO Tsuneyoshi

Two graphs showing maximum ionization versus maximum
precipitation at various localities. 1 p.

Aug 1942 - Vol XVI, No 5

"Abstracts of Lectures to be Delivered at the Annual 8430.

Meeting for 1943" 5706.

Program listing several hundred lectures variously 8600.010
on physics, mathematics, geophysics and astronomy, 8600.0200
which were to be given 16-18 Oct 1942 by about 8600.0811
several hundred Society members. 45 pp. 4422.

Sep 1942 - Vol XVI, No 6

"The Phenomenon of Relaxation" by KUBO Ryogo 8430.

Application of the Boltzmann equation to polydisperse
systems and to paramagnetic dispersion and electrical
conduction in alloys. 7 pp.

"The Ideal Theory of Semi-Abelian Groups and Its Explan- 8430.

ation by the Theory of Partially-Ordered Groups" by

MATSUSHITA Kameo 11 pp.

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"The Interaction of Thermal Neutrons and Solid Bodies,
Part 2" by KIMURA Kazuharu 8430.
8600.0811

General discussion following Pomerantschuk, on work
with crystals; scattering in alloys; and six graphs
and tables, showing the coefficient of neutron penet-
ration for various alloys. 6 pp.

"The Hard Components of Cosmic Rays" by KOBAYASHI Minoru 8600.0811
The hard and soft components; nuclear forces and the
meson; difficult points in the neutron theory of the
hard components; the generation and disappearance of
the hard components. 13 pp.

"Recent Researches into the Mechanical Characteristics of
Amorphous Substances, Part 3" by OKA Shoten and OKA A
Noriya 8430.
The statistical theory of rubber elasticity; six
graphs of results. 10 pp.

Oct 1942 - Vol XVI, No 7

"Acoustical Studies on the Japanese Fire Bell, Part 2" 8430.
by OHASHI Yutaka
Nine diagrams showing the sound intensity distribu-
tion around the bell. 8 pp.

"Riemannian Integrals and Lebesgue Integrals (Integral
Theory), Part 1" by KAWADA Keigi 8430.
Family of sets, measure, Riemannian integrals, metric
functions, Lebesgue integrals and additive set func-
tions. 24 pp.

"Haar's Measure (Integral Theory), Part 2" by KONISHI Isao 8430.
General discussion. 14 pp.

"The Life Period of Pseudo-Scalar Mesons" by ARAKI
Gentaro 8430.
8600.0811
Experimental and theoretical values. 1 p.

"Some Notes on Pseudo-Scalar Mesons" by MIYASHIMA
Tatsuoki 8430.
8600.0811
A new study of the delta function that overcomes a
former difficulty in explaining nuclear forces. 3 pp.

"Stability of Ionic Crystals" by ODAYASHI Shigehiro and 8430.
OKURI Hiroshi
Chart showing volumetric changes versus temperature
and a table of some extremal temperature values. 1 p.

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Nov 1942 - Vol XVI, No 8

- "Curves Possessing Bounded Curvatures" by KAKEYA Seichi 8430.
Study of curves defined by the parameters tangent angle and radius of curvature, with bounded values for the parameters. 3 pp.
- "The Derivative Functions of a Function That Varies Irregularly" by FUJIOKA Yoshio, MORI Yu and SATO Hideo 8430.
Derivatives calculable under certain assumptions of average and mean square values for fairly large values of the argument. 2 pp.
- "The Construction of a High Pressure Wilson Cloud Chamber" by FUJIOKA Yoshio, MORI Yu and SATO Hideo 8430.
8600.0811
Diagram and explanation. 1 p.
- "Several Problems on the Spectrum of Planetary Nebulae" by HATANAKA Takeo 8430.
Photographs, charts and graphs; recombination spectrum, forbidden lines, optical interaction and atomic numbers and electric dissociation. 20 pp.

Dec 1942 - Vol XVI, No 9

- "The Influence of Atomic Vibration on Orderliness and Randomness in Binary Alloys" by NAGAMIYA Kiyoo and UEMON-NO-SA Shigeo 8430.
A study and explanation of variations in physical characteristics (volume, conductivity, thermoelectricity, etc.) with changes in proportions of components, as in the work of Bethe, Bragg and Williams, etc. 8 pp.
- "Quantitative Analysis Using Artificial Radioactivity and Its Application to the Determination of Microscopic Amounts of Na in Al" by SAGANE Ryokichi, ENOBUCHI Masahiko and SHIGDA Jitaro 8430.
Graphs and charts showing results of experiments, compared with actual chemical determinations. 5 pp.
- "Counter Tubes Possessing Grids" by AOKI Hiroo, HONSHO Goro and KUROZAKI Zenichi 8430.
8600.0811
The electrical discharge in counter tubes; experimental results, with graphs and diagrams. 3 pp.
- "Vector Lattice Theory" by OGASAWARA Tojiro 8430.
Discussion of its representation by Boolean algebra and continuous functions; metrics. 35 pp.
- "Young's Modulus in Fe-Al Alloys of Regular Lattices" by KUBO Tetsujiro 8430.
Graphs and table showing modulus versus ratio of components and temperature. 2 pp.

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- "Oxide Cathodes and Oxygen Atmospheres" by KAWAMURA Hajimuru, TAMURA Sachio and SHINOHARA Akira 8430.
8370.02
A study of saturated thermal electrical current and its variation with the pressure of a pure oxygen atmosphere in a tube. 1 p.
- "The Bar Number of the Recurring Period in a Recurring Decimal Fraction Which Corresponds to An Integral Power of a Prime Number Under 1500" by YAMANOUCI Jiro 8430.
1 p.
- Jan-Feb 1943 - Vol XVII, No 1 and 2
- "Lift and Momentum of a Plane Wing with Open-Flap" by TASHIRO Yoshio, TOKOCHIKA Susumu and SHUZO Kenichi 2302.0300
Aerodynamical study by functions of complex variables and by isogonal representation of Bickley, with numerical results for C_L and C_M . 3 pp.
- "The Cross-sectional Area of Elastic Collision of Oxygen Atoms by Thermal Electrons" by YAMANOUCI Yasuhiko 8430.
A mathematical and graphical study by quantum mechanics of the effective area of scattering. 4 pp.
- "Surface Construction of Ionic Crystals" by OBAYASHI Shigehiro 8430.
Internal lattice constants, intervals between planes near the surface, positions of surfaces, graphs and tables. 2 pp.
- "Equations of State and Critical States of Gases" by KIHARA Taro 8430.
Thermodynamical studies of the virial coefficients of simple and mixed gases. 5 pp.
- "Emission of Thermal Electrons by Semi-Conductors" by HIBI Tadatoshi 8430.
8370.0100
Eleven characteristic curves, theoretical equations of Richardson and Fermi. 7 pp.
- "Field Emission" by TABUCHI Seiichi 8430.
8370.0100
Modification of the theoretical formula of "Feld-emission" assuming an approximately parabolic surface for the cathode. 3 pp.
- "The Region of Electric Discharges and their Forms" by MOCHIZUKI Shigeo and MIKOSHI Hoken 8370.0100
8430.
Relation of breakdown potential and the various conditions of circuit, gap, voltage; study of the electric discharge energy in the transition from corona to arc, as in the work of Townsend and Loeb. 9 pp.
- "Researches into Sound-Absorbing Materials Under Water" by OHASHI Yutaka 8430.
4412-
Determination of sound absorption coefficients. 6 pp.

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"Oppenheimer-Phillips Type Nuclear Reaction" by SUGIMOTO 8600.0811
Asao

The lack of experimental proof, the distribution of proton energies and the transmutation function and cross-sectional area of reaction.. 9 pp.

"High-speed Photography" by HIRADA Shinzo 0410.
High-speed shutters, flash illumination, the problem of spark voltages, production of electric spark, spark relay by a window vacuum-tube, the method of IASHITA and HANADA and the method of numerous photographs. 14 pp.

"Stability and Fusion of Crystals" by KUBO Ryogo 8430.
The correlation of the elastic constants for various deformations with certain physical characteristics. 2 pp.

"Crystalline Structure of Chromium Plate Layers" by 4205.0239
YOSHIDA Susumu 4205.1000
The variation of surface hardness of chrome plating with conditions of electroplating. 1 p.

Mar 1943 - Vol XVII, No 3

"Matrix Representation of Operators in Approximations" 8600.0811
by UMEMIYA Ayao
Matrical studies on electron distribution in atomic spectrum researches; Heisenberg wave mechanics. 11 pp.

"Tables of the Products of Three Spherical Functions" by 8600.0811
UMEMIYA Ayao
Aids to problems of atomic physics in the integration of three spherical functions. 8 pp.

"The Statistical Mechanics of Regular Solutions" by 8430.
MUTO Yoshio
The grand partition function and free energy of regular solutions, nature of the beta function of j , the critical temperature of complete fusion. 6 pp.

"Ferromagnetism of Semi-Conductors" by HIRONE Tokutaro 8430.
and MIYAHARA Shohei
Several new results from the Fermi distribution of electrons by considering electron interaction, hitherto unclarified. 5 pp.

"D-D Neutron Capture" by Osaka U Nuclear Laboratory 8600.0811
Determination of induced radioactivity in Al, Cu, 8600.0110
Ag and Rhodium by capture of 2.5 Mev neutrons, 8600.0200
tables of results. 5 pp.

"The Theory of Denjoy Integrals, Part 1" by IZUMI Nambuichi 8430.
SHIMANOCHI Genichiro, ORIHARA Masae and KASAHARA Masatomo
Integral calculus of discrete functions, continuous functions and Denjoy integrals. 19 pp.

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- "Theory of Forbidden Lines" by MASUKO Masanori 8430.
Theory of radiation, the correspondence principle, the selection rule, intermediate coupling, strength of forbidden lines, Zeeman effect, general combination rules and the theory of scattering, observability of forbidden lines. 14 pp.
- "The Barkhausen Effect in Ferromagnetic Bodies" by MURAKAWA Kiyoshi 8430.
A survey of all work up to the present. 11 pp.
- Apr 1943 - Vol XVII, No 4
- "Various Factors Influencing Oxide Cathodes" by KAWAMURA Hajimuru 8370.0100 8430.
Discussion of the results of experiments on the activation of oxide cathodes with characteristic curves and tables. 16 pp.
- "Oxide Thermal Cathode" by KAWAMURA Hajimuru 8370.0100 8430.
Electron emission versus various heating elements, filament current versus O₂ gas pressure in the tube, Richardson's equation, the work function, evaporation of BaO and Ba. 10 pp.
- "Researches into Oxide Cathodes through the Electron Microscope" by ARIZUMI Tetsuya 8370.0100 8430.
General view of the results of electron optical studies on cathode surfaces, electron emission from crystals, optical and electronic images, reversal of electronic images, center of radiation, cathode activation. 10 pp.
- "Secondary Electron Emission" by KAWAMURA Hajimuru 8370.0100 8430.
Energy distribution, primary voltage and its influence, work function and its effect, other factors influencing secondary emission, the theory of secondary emission, secondary electron emission in semi-conductors, practical applications. 8 pp.
- "External Photoelectric Effect" by SAYAMA Yoshihiro 8370.0100 8430.
The theoretical and practical development, history, the effect in pure metals, development of the composite photocathode, tables and graphs of experimental values. 11 pp.
- "Regularity in Nuclear Isomers" by MORIDA Yu 8430. 8600.0811
The work of Bethe, Hebb and Uhlenbeck in energy and spin differences. 2 pp.

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May 1943 - Vol XVII, No 5

- "Abstracts of Lectures to be Delivered at the Annual Meeting" 8430.
5706.
Program listing of 350 lectures variously on physics, 8600.0100
mathematics, geophysics and astronomy which were to 8600.0200
be given 17-19 Jul 1943 by about 400 society members; 8600.0811
abstracts from 3 to 10 lines long; authors and insti- 4422.
tutions or private laboratories; the 350 lectures
break down as follows: physics 138, mathematics 144,
geophysics 45, astronomy 23. 46 pp.

Jun 1943 - Vol XVII, No 6

- "One-Parameter Set of Stochastic Laws" by IWAZAKI Kenkichi 8430.
General discussion. 4 pp.
- "Numerical Solution of Integrals" by HIDAKA Takatsugu 8430.
and ISHIMOTO Sumire
Fredholm's solution, calculation of the recurrence
formulas, numerical calculations, two examples, Fred-
holm integrals of the first type. 5 pp.
- "Theory of Rubber Elasticity" by SAKAI Koichi 8430.
Ideal rubber, application of statistical mechanics, 4416.0200
the physical explanation of stress, relation between
stress and strain, relation between stress and tem-
perature, relation between temperature and length,
graphs and formulas. 8 pp.
- "Movement of Anions in Counter Tubes" by SHIMODA Koichi 8430.
and OGAWA Iwao 8370.0250
The Geiger-Muller tube, the circuit, variation in the
grid voltage of tubes with two grids, estimation of
anion mobility, the dead time. 5 pp.
- "The After-Discharge in Geiger-Muller Tubes" by SHIMODA Koichi and OGAWA Iwao 8430.
8370.0250
Explanation of the Nachentladung phenomenon, grid
effect, temporal distribution of the after-discharge,
tubes with two wires, tubes with double grids and
wires, relation between photons and after-discharge,
conjecture concerning the mechanism by which photons
cause the after-discharge; characteristic curves, wir-
ing diagrams, cross-section of the Geiger-Muller tube.
7 pp.
- "The Progress of Electrolytic Polarization in the Active Material of Storage Batteries" by TOMOHISA Takeo 0504.0604
8430.
Discussion of polarization and practical application
of the results of experiments. 16 pp.

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Abstracts of material on various
scientific subjects will be found
as listed in the Table of Contents.

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Astronomy

Pages

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Jul 1943 - Vol XVII, No 7

- "Electrical Conductivity of Semi-Conductors" by HIBI Tadatoshi 8430.
Experimental and theoretical studies on number of conduction electrons n versus temperature T for various substances, activation energies E and initial values n_0 . 5 pp.
- "Deliquescence and Efflorescence in Rochelle Salt Crystals" by KAWAI Hiratsugu 8430.
Experimental results in tabular and graphic forms. 3 pp. 8330.0700
- "Statistical Mechanics of Chain Compounds (Part I): A Study of Rubber Elasticity" by KUBO Ryogo 8430.
Theoretical studies. 7 pp.
- "Transition in KH_2PO_4 , Part 1" by TAKAGI Yutaka 8430.
Calculation of total number of different positions of Hydrogen in the molecule following Slater in the study of Hydrogen bonds. 11 pp.
- "Mechanism Explaining Transport of Electric Charge in Belt Generators (Report by the Tokyo University Physical Laboratory on the Ion Accelerator)" by KUMAGAI Hiroo 8430.
Comparison of results for different arrangements of corona combs. 6 pp. 8600.0432
- "Researches into the Various Natures of Ion Sources Using Low Voltage Arcs" by ASANO Yoshihiro 8430.
Diagrams and operating curves. 8 pp. 8600.0432
- "Experimental Research into Nuclear Electrons" by OJIMA Shoji 8430.
Equipment, preliminary experiments, determination of excitation curves for nuclear electrons, their energy distribution and total energy, comparison of theoretical and experimental energy distribution of nuclear electrons, reaction ratio. 9 pp. 8600.0800
- "Several Researches into Ultra Short Waves" by WATANABE Michio 8430.
General survey of the whole field. 14 pp. 8340.0100
- "Denjoy Integral Theory, Part 2" by IZUMI Shinichi, SHIMANOUCHI Genichiro, ORIHARA Masae and KASAHARA Masatomo 8430.
Differentiation, Perron-type integrals, abstract Denjoy integrals. 24 pp.
- "Magnetic Scattering of Protons by Neutrons" by YAKASHITA Jiro 8430.
Nuclear forces and diagram of maximum energies. 2 pp. 8600.0300

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